

**Common Reactions of Acids**

1. acid + metal  $\rightarrow$  salt + hydrogen gas
2. acid + base (metal hydroxide)  $\rightarrow$  salt + water
3. acid + metal oxide  $\rightarrow$  salt + water
4. acid + metal carbonate  $\rightarrow$  salt + carbon dioxide gas + water
5. acid + metal hydrogen carbonate  $\rightarrow$  salt + carbon dioxide gas + water
6. acidic oxide (non-metal oxide) + base (metal hydroxide)  $\rightarrow$  salt + water

**Exercises:**

Write both **full and ionic** equations for the following reactions:

a) Magnesium(s) and sulfuric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

b) Aluminium(s) and nitric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

c) Sulphuric acid and solid sodium oxide

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

d) Copper(II)carbonate(s) and nitric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

e) Potassium hydrogen carbonate(aq) and sulfuric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

f) Solid sodium oxide and phosphoric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

g) Solid copper(II) oxide and hydrochloric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

h) Potassium hydroxide and sulfuric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

i) Magnesium hydroxide(aq) + phosphoric acid

Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

j) Nitric acid + solid magnesium oxide

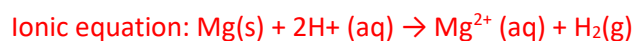
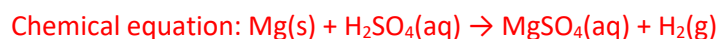
Chemical equation: \_\_\_\_\_

Ionic equation: \_\_\_\_\_

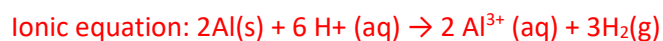
Exercises:

Write both full and ionic equations for the following reactions:

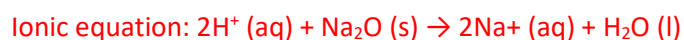
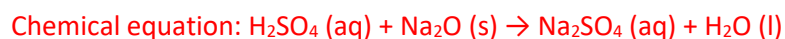
a) Magnesium(s) and sulfuric acid



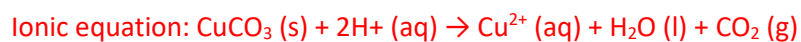
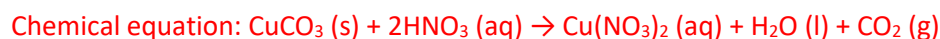
b) Aluminium(s) and nitric acid



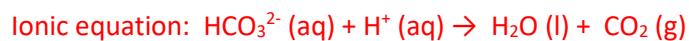
c) Sulphuric acid and solid sodium oxide



d) Copper(II)carbonate(s) and nitric acid



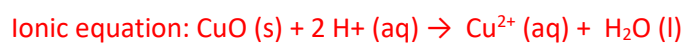
e) Potassium hydrogen carbonate(aq) and sulfuric acid



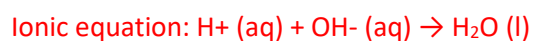
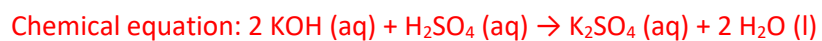
f) Solid sodium oxide and phosphoric acid



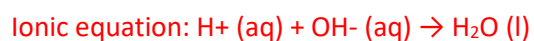
g) Solid copper(II) oxide and hydrochloric acid



h) Potassium hydroxide and sulfuric acid



i) Magnesium hydroxide(aq) + phosphoric acid



j) Nitric acid + solid magnesium oxide

